

Replace the paragraph at page 3, lines 16-31, with the following paragraph:

A2 The magnetic flux flow loop 48 is illustrated in Figure 1. The magnetic flux flow loop 48 extends from the first end portion 28 of the shaft 16 through the length of the shaft 16 to the second end portion 30 of the shaft 16, from the second end portion 30 of the shaft 16 along the peripheral surface 46 of the can 26 around or outside both the bearing 22 and the electrical coil 24 to the outer peripheral surface 34 of the nut 18, from the outer peripheral surface 34 of the nut 18 through the nut 18 to the inner peripheral surface 32 of the nut 18, and between the inner peripheral surface 32 of the nut 18 and the first end portion 28 of the shaft 16 along an arch-shaped airborne path portion 50. The airborne path portion 50 of the magnetic flux flow loop 48 arches outwardly from the actuator 10 around the non-magnetic bushing 20.

Replace the paragraphs at page 5, lines 29-35, with the following paragraphs:

Figure 2 is a front perspective view of an electro-magnetic actuator in accordance with the present invention;

A3 Figure 3 is a cross-sectional side view of the electro-magnetic actuator in accordance with the present invention attached to a known type of viscous fluid clutch; and

Figure 4 is a partially fragmented view of a vehicle including the electromagnetic actuator in accordance with the present invention connected to a engine cooling fan and a viscous fluid clutch.

Please add the following new paragraph after the paragraph ending on page 9, line 23 and before the paragraph starting on page 9, line 24:

A4 Figure 4 shows a vehicle 200 including an engine 202 and the electromagnetic actuator 110 coupled to a known viscous fluid clutch 112 associated with an engine cooling fan 204. The clutch 112 is designed to couple and decouple the fan 204 and the engine 202. When the clutch 112 is actuated, a rotary force is transmitted from the engine 202 through the clutch 112 to the fan 204. The actuator 110 according to the present invention is used to actuate and deactuate the clutch 112.